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5. The molded gear according to claim 2, wherein another end of each of said blades is located between said diametrical rib and a diametrical rib that is located next to said diametrical rib.

6. The molded gear according to claim 1, wherein another end of each of said blades extends up to a vicinity of a diametrical rib that is located next to said diametrical rib.

REMARKS

Applicant has amended claims 1, 2, added new claims 3-6, amended the specification and the drawings. Applicant respectfully submits that the amendments to the claims, specification and drawings are supported by the application as originally filed and do not contain any new matter. Accordingly, the Office Action will be discussed in terms of the claims, specification and drawings as amended.

The Examiner has objected to the drawings described at page 4 and shown in Figs. 1, 4 and 7, stating that the cross-sectional lines should be indicated by Arabic numerals. Applicant has amended the figures by way of a letter to the Chief Draftsperson submitted for the Examiner's approval and amended the description of the drawings at page 4. Accordingly, Applicant respectfully requests that the Examiner withdraw his objection.

The Examiner has objected to the disclosure and pointed out that the abbreviations at page 1, second paragraph and page 2, line 18 should be defined and "o" should be changed to --to-- at page 7, line 16. Applicant has amended the specification where indicated by the Examiner and respectfully requests that the Examiner withdraw his objection.

The Examiner has rejected claims 1 and 2 under 35 USC 102 as being anticipated by Mabuchi et al.

Applicant has carefully reviewed Mabuchi et al. and respectfully submits that while Mabuchi et al. may disclose blades which generate air flow for cooling, Mabuchi et al. does not disclose that the end of the blades is located on the extension line of the corresponding diametrical rib. Applicant respectfully submits that such a construction has an advantage in that the flowing of the molten plastic material is smooth and thus the number of molding failures are reduced (see page 7, fourth line from the bottom through page 8, first line). This is an advantage over the prior art as shown and by Mabuchi et al. and is of significance.

In view of the above, therefore, Applicant respectfully submits that Mabuchi et al. does not disclose each and every element of Applicant's invention and claims 1 and 2 are not anticipated thereby.

The Examiner has rejected claims 1 and 2 under 35 USC 103 as being obvious over Kawakatsu et al. in view of Holtzberg et al., stating that Kawakatsu et al. shows cooling vanes 10 integral with gear 11, but does not disclose a molded gear; Holtzberg et al. discloses a molded gears; and it would have been obvious to one of ordinary skill in the art to have modified Kawakatsu et al. in view of Holtzberg et al.

In reply thereto, Applicant would like to incorporate by reference his comments above concerning Applicant's invention and again particularly point out that in Applicant's invention an end of each of the blades is located on the extension line of the corresponding diametrical rib. In contrast thereto, Applicant respectfully submits that the gear of Kawakatsu et al. does not have such a construction. Still further, while Holtzberg et al. may disclose injection molding, it too does not show that an end of each of the blades is located on the extension line of the corresponding diametrical rib.

In view of the above, therefore, Applicant respectfully submits that the combination of Holtzberg et al. and Kawakatsu et al. is not Applicant's invention and claims 1 and 2 are not obvious thereover.

In addition, Applicant respectfully submits that the newly added claims 3-6 are not obvious or anticipated by Mabuchi et al., Kawakatsu et al. and Holtzberg et al., taken singly or in combination.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In view of the above, therefore, it is respectfully requested that this Amendment be entered, favorably considered and the case passed to issue.

Please charge any additional costs incurred by or in order to implement this Amendment or required by any requests for extensions of time to KODA & ANDROLIA DEPOSIT ACCOUNT NO. 11-1445.

Respectfully submitted,

KODA & ANDROLIA

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 William L. Androlia

Name

9/3/2002

Signature

Date

Application No. 09/865,382

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Page 1, second full paragraph, has been amended as follows:

In recent years, many injection-molded plastic gears as molded gears are used in an [OA] Office Automation (OA) system, an [AV] Audio Visual (AV) system, [a] an electric/electronic system, and an automobile part or the like. Such injection-molded plastic gear has a light weight and a self-lubricating property; generates a noise lower than that in a metal gear, and can be produced in bulk, leading to an economic advantage. Therefore, the injection-molded plastic gear has been utilized in a further widened range of application.

The last paragraph bridging pages 2 and 3 has been amended as follows:

With such configuration, when the molded gear is rotated, a flow of air passed through the holes from the surface side to the back side of the molded gear can be generated by the blades and blown to a part such as an [IC] integrated circuit (IC), a motor and the like disposed adjacent the molded gear to cool it, and heat-accumulated air around the IC, the motor or the like can be forcibly discharged to inhibit the rise in ambient temperature. Particularly, the molded gear according to the present invention has the [fun] fan function and hence, it is possible to supply air to an area where a fan cannot be specifically placed, thereby cooling such area. In the molded gear according to the present invention, the holes are defined adjacent the teeth and the blades are formed at side edges of the holes. In this case, the flow of air is produced by the blades to flow in the vicinity of the teeth, whereby the heat in the teeth and in the vicinity of the teeth can be taken away by the heat transfer and hence, the cooling of the teeth and an area in the vicinity of the teeth can be achieved effectively.

Page 4, second full paragraph has been amended as follows:

Fig.2 is a sectional view taken along a line [A-A] 2-2 in Fig.1;

Page 4, third full paragraph has been amended as follows:

Fig.3 is a sectional view taken along a line [B-B] 3-3 in Fig.1;

Page 4, fifth full paragraph has been amended as follows:

Fig.5 is a sectional view taken along a line [C-C] 5-5 in Fig.4;

Page 4, sixth full paragraph has been amended as follows:

Fig.6 is a sectional view taken along a line [D-D] 6-6 in Fig.4;

Page 4, eighth full paragraph has been amended as follows:

Fig.8 is a sectional view taken along a line [E-E] 8-8 in Fig.7;

Page 4, ninth full paragraph has been amended as follows:

Fig.9 is a sectional view taken along a line [F-F] 9-9 in Fig.7;

Page 7, third full paragraph, has been amended as follows:

In addition, in the present embodiment, it is unnecessary to place a separate fan, because the injection-molded plastic gear 1 has the [fun] fan function, and hence, it is possible [o] to reduce the number of components for an OA system, and AV system or the like in which the injection-molded plastic gear 1 to provide a reduction in price of an article such as the OA system, the AV system and the like and also to provide a reduction in size of the OA system, the AV system or the like.

IN THE CLAIMS:

Claim 1 has been amended as follows:

1. (Amended) A molded gear made with a plurality of diametrical ribs extending radially, a web, and a plurality of teeth formed around an outer periphery thereof by cooling and solidifying a molten material in a mold, comprising
a plurality of holes defined circumferentially in a portion radially inner than said teeth to extend through said radially inner portion from a surface to a back, and
blades formed at side edges of said holes, an end of each of said blades being located on an extension of a corresponding diametrical rib or said web.

Claim 2 has been amended as follows:

2. (Amended) A molded gear made with a plurality of diametrical ribs extending radially, a web, a rim, and a plurality of teeth formed around an outer periphery of a rim by cooling and solidifying a molten material in a mold, comprising
a plurality of blades formed at distances circumferentially on an inner peripheral surface of the rim, and
[a radially inner portion formed on the side of inner peripheries of said blades to support said rim through said blades]
an end of each of said blades being located on an extension of a corresponding diametrical rib or said web.

Add new claims 3-6 as follows:

--3. The molded gear according to claim 1, wherein another end of each of said blades is located between said diametrical rib and a diametrical rib that is located next to said diametrical rib.

4. The molded gear according to claim 1, wherein another end of each of said blades extends up to a vicinity of a diametrical rib that is located next to said diametrical rib.

5. The molded gear according to claim 2, wherein another end of each of said blades is located between said diametrical rib and a diametrical rib that is located next to said diametrical rib.

6. The molded gear according to claim 1, wherein another end of each of said blades extends up to a vicinity of a diametrical rib that is located next to said diametrical rib.--